



August 22, 2008

Project No. 1155.006

Ms. Jennifer L. Wiley, PG, CEM
THE BOEING COMPANY
Environment, Health & Safety – Environmental Remediation
4501 Conant Street
Long Beach, California 90808

Field Data Report
August 2008 Groundwater Sampling
Building 1/36 WDR Quarterly Monitoring and Building 2 WDR Month 1 Monitoring
Waste Discharge Requirements Order No. R4-2007-0040
Boeing Corporate Real Estate Former C-6 Facility
Los Angeles, California

Dear Ms. Wiley:

This report has been prepared by Avocet Environmental, Inc. (Avocet) to summarize and present the field data collected during the August 2008 groundwater monitoring event at the Boeing Corporate Real Estate (BCRE) Former C-6 Facility in Los Angeles, California. The August 2008 monitoring included sampling for the Building 1/36 Waste Discharge Requirements (WDR) and Building 2 WDR programs. The monitoring was conducted pursuant to and in accordance with the following:

Avocet Environmental, Inc., July 31, 2008, Technical Memorandum, August 2008 WDR Sampling and Analysis Plan Month 1 Monitoring - Building 2 Area and Additional Monitoring – Building 1/36, Boeing Corporate Real Estate Former C-6 Facility, Los Angeles, California (Attachment 1).

California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), February 15, 2008, Approval of Revised Monitoring and Reporting Program C19310, Individual Waste Discharge Requirements Order No. R4-2007-0040, Boeing Corporate Real Estate, Former C-6 Facility, 19503 South Normandie, Los Angeles, California (File No. 95-036; SLIC No. 0410; Site ID No. 1846000).

Avocet Environmental, Inc., February 4, 2008, 2008 Groundwater Monitoring Work Plan, Boeing Former C-6 Facility, 19503 South Normandie Avenue, Los Angeles, California.

Field activities performed during the August 2008 monitoring event are discussed in the following sections. Figures 1 and 2 (Attachment 1) present the locations of the groundwater monitoring wells included in the programs.

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GROUNDWATER SAMPLING ACTIVITIES

All 13 wells scheduled for water level measurement were gauged for depth to water on August 5, 2008 using a Solinst electronic water level sounder. The wells were also inspected for any damage or missing materials. All wells were in good condition, but most Building 1/36 WDR wells were missing the bolts that secure the lids. The wells are frequently accessed during the pilot test and it is suspected that the bolts were temporarily removed by the remediation contractor. The pump in extraction well WCC_06S was removed for maintenance by the remediation contractor shortly prior to sampling and the well was purged for sampling using portable low-flow equipment.

The four Building 2 area WDR wells were purged and sampled on August 5, 2008 and the nine Building 1/36 area WDR wells were purged and sampled on August 5 through 7, 2008. All of the wells were purged for sampling using the low-flow (~0.2 liters/minute) method and a QED MP20 flow-through cell. Wells WCC_06S and MWB006 were sampled with a portable pump and dedicated tubing, while all other wells were sampled with dedicated pumps. Ferrous iron testing was performed in all wells using a HACH DR/890 Colorimeter. The field instruments were calibrated prior to the event and the calibration data sheets are included in Attachment 2. Field data forms are included in Attachment 2.

At the completion of purging, groundwater samples were collected in laboratory supplied containers, properly labeled, identified on the chain-of-custody, and submitted to TestAmerica Laboratory, an appropriately certified environmental testing laboratory located in Irvine, California. A normal 10-day turn-around time was requested for the lab analyses. For the WDR wells, groundwater samples were analyzed for the following:

- Volatile organic compounds (VOCs) by EPA Method 8260B,
- Total organic carbon (TOC) by EPA Method 9060 (for the 4 Building 2 wells, and MWB006),
- Volatile fatty acids (VFAs) by IC Method 8M23G (subcontracted by TestAmerica to Microseeps, Inc., Pittsburg, PA) (for the 4 Building 2 wells, and MWB006),
- Dissolved gases (ethane, ethene, and methane) by RSK 175 (subcontracted by TestAmerica to Air Technology Laboratory, Inc., City of Industry, CA),
- Dissolved minerals (sulfate, nitrate, nitrite, and chloride) by EPA Method 300 Series (for the 4 Building 2 wells, and MWB006),
- Total Alkalinity by EPA Method 310 (for the 4 Building 2 wells, and MWB006),
- Quantitative polymerase chain reaction (qPCR) analysis for DHC 16S rRNA gene and functional genes *tceA*, *bvcA*, and *vcrA* (subcontracted by TestAmerica to North Wind, Inc., Pocatello, ID), and
- Total dissolved solids (TDS) by EPA Method 160.1 (for MWB006 only).

Purge water (approximately 59 liters) was placed in an appropriately labeled 55-gallon drum located adjacent to the treatment compound. The analytical results will be used to profile the purge water for transport to an appropriate off-site facility for treatment and disposal.



Field Data Report
August 2008 Groundwater Sampling

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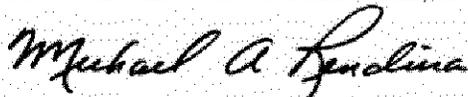
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Management, containerization, staging, profiling, and transportation will be conducted in accordance with procedures established by BCRE.

If you have any questions regarding this report or require additional information, please do not hesitate to call.

Respectfully submitted,

AVOCET ENVIRONMENTAL, INC.



Michael A. Rendina, C.Hg.
Principal

MAR:sh

Attachments:

Attachment 1: August 2008 Groundwater Sampling and Analysis Plan

Attachment 2: Field Data Forms

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Attachment 1

August 2008 Groundwater Sampling and Analysis Plan



July 31, 2008

Project No. 1155.006

Ms. Jennifer Wiley, P.G.
THE BOEING COMPANY
Environment, Health & Safety –
Environmental Remediation
4501 East Conant Street, M/C D851-0097
Long Beach, California 90808

(via electronic mail only)

Technical Memorandum
August 2008 WDR Sampling and Analysis Plan
Month 1 Monitoring - Building 2 Area and Additional Monitoring – Building 1/36
Waste Discharge Requirements Order No. R4-2007-0040
Boeing Corporate Real Estate Former C-6 Facility
Los Angeles, California

Dear Ms. Wiley:

This memorandum has been prepared by Avocet Environmental, Inc. (Avocet) and presents the sampling and analysis plan (SAP) for the August 2008 required monitoring at the Former Building 2 and Building 1/36 Areas of Boeing Corporate Real Estate's (CRE's) Former C-6 Facility in Los Angeles, California. This monitoring is being conducted pursuant to and in accordance with California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) *Approval of Revised Monitoring and Reporting Program CI-9310, Individual Waste Discharge Requirements (WDR) Order No. R4-2007-0040* (the WDR Order) issued February 15, 2008. Additional monitoring in the former Building 1/36 area is not required by the WDR, but is necessary to gather required additional data. This memorandum discusses the ground water monitoring activities to be conducted and the analyses to be performed as pertains to the WDR Order. Additional details are provided in the *2008 Groundwater Monitoring Work Plan* (the Work Plan; Avocet, February 4, 2008).

Field Activities

The details of the Building 2 WDR and additional Building 1/36 groundwater monitoring programs during August of 2008 are presented in tables 1 and 2 respectively. Maps showing the well locations are provided in Figures 1 and 2. Collectively the two events call for fluid level measurements and sample collection from 13 wells, as follows:

Month 1 Building 2 WDR Monitoring - In accordance with the WDR Order, four wells are to be monitored at the Former Building 2 area. These four wells consist of the four Group B Wells (CMW026, IRZCMW002, IRZCMW003, and MWC024) located within the treatment zone. Each of these wells will be gauged for water level and sampled. A list of the WDR wells to be

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Month 1 Monitoring - Building 2 Area and Additional Monitoring – Building 1/36

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monitored (and not monitored), broken out by Group, is provided in Table 1. A map showing the well locations is provided in Figure 1.

Additional Building 1/36 Monitoring – In order to gather additional data, nine wells are to be monitored at the Former Building 1/36 area. These nine wells consist of the seven group B Wells (AW0075UB, AW0076UB, AW0077UB, EWB002, AW0073C, WCC_06S, and AW0074UB) the Group D Well (AW0055UB) and Well MWB006 which is being added to the program as a Group D Well. Each of these wells will be gauged for water level and sampled. A list of the WDR wells to be monitored (and not monitored), broken out by Group, is provided in Table 2. A map showing the well locations is provided in Figure 2.

The scope of work will include all tasks associated with collecting the field measurements and laboratory samples required to comply with the WDR Order. In brief, these activities will include water level measurements, groundwater well purging and sampling using low-flow methods, and sample analyses. Additional activities such as pre-field documentation, waste management, and reporting are addressed in the Work Plan. Overall, the ground water monitoring activities associated with the WDR Order are as follows:

- Prior to any ground water disturbance, depth to water measurements will be taken from each of the thirteen wells using a Solinst (or equivalent) well sounder.
- Groundwater samples will be collected from thirteen wells during the August 2008 monitoring event (Table 1). Prior to sampling, the wells will be purged using low-flow methods to assure representative samples are collected from the formation. During purging, the flow rate at each location will be maintained between 0.1 and 0.5 L/min, dependent on site-specific and well-specific factors as drawdown is not to exceed 0.3 feet in any well.
- During well purging, biogeochemical parameters including pH, temperature, electric conductivity (EC), dissolved oxygen (DO), and oxygen-reduction potential (ORP) will be periodically measured using a flow-thru cell and QED multiparameter meter. In addition, turbidity will be measured using a Lamotte 2020 turbidimeter; ferrous iron (Fe(II)) will be measured using a Hach DR890 Colorimeter, and the QED dissolved oxygen measurements will be confirmed using a CHEMetrics, Inc. test kit. Purging will continue until three consecutive measurements are within +/-0.2 for pH, +/-3% for EC, +/-10% for DO, and +/-20 mV for ORP (ATSM, 2002).
- At the completion of purging, groundwater samples will be collected in laboratory-supplied containers, labeled in accordance with Boeing's Data Management Plan (CH2M Hill, 2007), placed on ice in a cooler, identified on



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Month 1 Monitoring - Building 2 Area and Additional Monitoring – Building 1/36

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the chain-of-custody, submitted to appropriately certified environmental testing laboratories, and analyzed, according to the WDR Order, for the following:

- volatile organic compounds (EPA Method 8260B);
- total organic carbon (EPA 9060);
- volatile fatty acids by IC Method 8M23G (Microseeps, Inc., Pittsburg, PA);
- dissolved hydrocarbon gases (ethene, ethane, and methane by RSK 175);
- total alkalinity (EPA Method 310.1);
- dissolved minerals (sulfate, nitrate, nitrite, and chloride by EPA Method 300 Series); and
- Quantitative Polymerase Chain Reaction (qPCR) analysis for DHC 16S rRNA gene and functional genes *tceA*, *bvcA*, and *vcrA* (North Wind, Inc., Pocatello, ID).

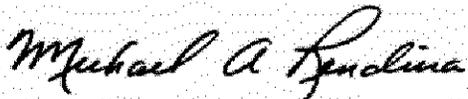
A summary of the analytical program is presented in Tables 1 and 2.

Closing Remarks

Ground water monitoring is scheduled to commence at the site on Tuesday, August 5, 2008. Avocet Environmental, Inc. appreciates the opportunity to be of service to Boeing Corporate Real Estate. If you have any questions, please do not hesitate to call.

Respectfully submitted,

AVOCET ENVIRONMENTAL, INC.



Michael A. Rendina, P.G.
Principal

MAR:sh
Enclosure

cc: Mr. Joe Weidmann – Haley & Aldrich
Mr. Ravi Subramanian - CDM

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Table

Table 1
August 2008 Former Building 2 WDR Groundwater Monitoring Program
 Boeing CRE Former C-6 Facility,
 Los Angeles, California

Well Information			Field Program				Laboratory Program										Comments
Well Name	Sampling Group	Hydrostratigraphic Unit	Total Select VOCs Concentration (µg/l)	Sampling Order	Water Level Measurement	Field Parameters	VOCs EPA 8260B	TOC EPA 9060 Modified	Volatile Fatty Acids IC Method SM23G (Microseeps)	Dissolved Hydrocarbon Gases (DHGs) Methane, Ethane, Ethene RSK 175	Alkalinity EPA 310.1	Anions (NO ₃ , NO ₂ , Cl, SO ₄) EPA 300.0	Total Dissolved Solids EPA 160.1	DHC 16S rRNA gene and functional genes tceA, bvcA, and vcrA; by qPCR analysis (North Wind)			
Group A Wells																	
IRZC0001 & IRZC0003 through IRZC0020	A	C-Sand	-	-											Not accessible for sampling		
Group B Wells																	
CMW026	B	C-Sand	1,300	1	x	x	x	x	x	x	x	x	-	x	"Month 1" Monitoring Event		
IRZCMW003	B	C-Sand	7,800	4	x	x	x	x	x	x	x	x	-	x	"Month 1" Monitoring Event		
IRZCMW002	B	C-Sand	1,700	2	x	x	x	x	x	x	x	x	-	x	"Month 1" Monitoring Event		
MWC024	B	C-Sand	2,750	3	x	x	x	x	x	x	x	x	-	x	"Month 1" Monitoring Event		
Group C Wells																	
CMW002	C	C-Sand	-												Not monitored during "Month 1" event		
Group D Well																	
IRZCMW001	D	C-Sand	-												Not monitored during "Month 1" event		
Quality Control Samples																	
Duplicates (1 per 20 wells)							x (est. 1)										
Trip Blanks (1 per cooler)							x (est. 1)										
Totals:					4	4	6	4	4	4	4	4	0	4			

Notes: Field Parameters = pH, DO, ORP, EC, temp, turb, and ferrous iron.

pH = Potential of Hydrogen

DO = Dissolved Oxygen

ORP = Oxidation Reduction Potential

EC = Electrical Conductivity

Temp = Temperature

Turb = Turbidity

µg/l = Micrograms per liter

Select VOCs for Total VOC calculation include PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and VC (June 2007).

VOCs = Volatile organic compounds

EPA = U.S. Environmental Protection Agency

TOC = Total Organic Carbon

DHGs = Dissolved hydrocarbon gases

NO₃ = Nitrate, NO₂ = Nitrite, Cl = Chloride, SO₄ = Sulfate

DHC = *dehalococcoides* spp. strains

qPCR = Quantitative Polymerase Chain Reaction

Table 2
August 2008 WDR Groundwater Monitoring Program
 BCRE Former C-6 Facility,
 Los Angeles, California

Well Information			Field Program				Laboratory Program								Comments
Well Name	Sampling Group	Hydrostratigraphic Unit	Total VOCs Concentration (µg/l)	Sampling Order	Water Level Measurement	Field Parameters	VOCs EPA 8260B	TOC EPA 9060 Modified	Volatile Fatty Acids IC Method 8M23G (Microseps)	Dissolved Hydrocarbon Gases (DHGs) Methane, Ethane, Ethene RSK 175	Alkalinity EPA 310.1	Anions (NO ₃ , NO ₂ , Cl, SO ₄) EPA 300.0	Total Dissolved Solids EPA 160.1	DHC 16S rRNA gene and functional genes teeA, bvcA, and vcrA; by qPCR analysis (North Wind)	
Group A Wells															
AW0066UB	A1	B-Sand	202,340	-											Not monitored in August
AW0067UB	A1	B-Sand	10,430	-											Not monitored in August
AW0064UB	A2	B-Sand	11,213	-											Not monitored in August
AW0065UB	A2	B-Sand	86,600	-											Not monitored in August
Group B Wells															
AW0075UB	B1	B-Sand	11,072	2	x	x	x	-	-	x	-	-	-	x	
AW0076UB	B1	B-Sand	84,878	8	x	x	x	-	-	x	-	-	-	x	
AW0077UB	B1	B-Sand	66,950	7	x	x	x	-	-	x	-	-	-	x	
EWB002	B1	B-Sand	66,066	6	x	x	x	-	-	x	-	-	-	x	
AW0073C	B1	B-Sand	14,465	4	x	x	x	-	-	x	-	-	-	x	
WCC_06S	B2	B-Sand	11,205	3	x	x	x	-	-	x	-	-	-	x	
AW0074UB	B2	C-Sand	5,005	1	x	x	x	-	-	x	-	-	-	x	
Group C Wells															
TMW_07	C	B-Sand	1725	-											Not monitored in August
WCC_12S	C	B-Sand	163	-											Not monitored in August
Group D Well															
AW0055UB	D	B-Sand	49067	5	x	x	x	-	-	x	-	-	-	x	
MWB006	D	B-Sand	242900	9	x	x	x	x	x	x	x	x	-	x	
Quality Control Samples															
Duplicates (1 per 20 wells)							x (est. 1)								
Rinsate Blanks (1 per day)							x (est. 1)								
Trip Blanks (1 per cooler)							x (est. 2)								
Totals:					9	9	12	1	1	9	1	1	0	9	

Notes: Field Parameters = pH, DO, ORP, EC, temp, turb, and ferrous iron.

- pH = Potential of Hydrogen
- DO = Dissolved Oxygen
- ORP = Oxidation Reduction Potential
- EC = Electrical Conductivity
- Temp = Temperature
- Turb = Turbidity
- µg/l = Micrograms per liter

Total VOCs Concentration - B1 Wells March 2008 monitoring.

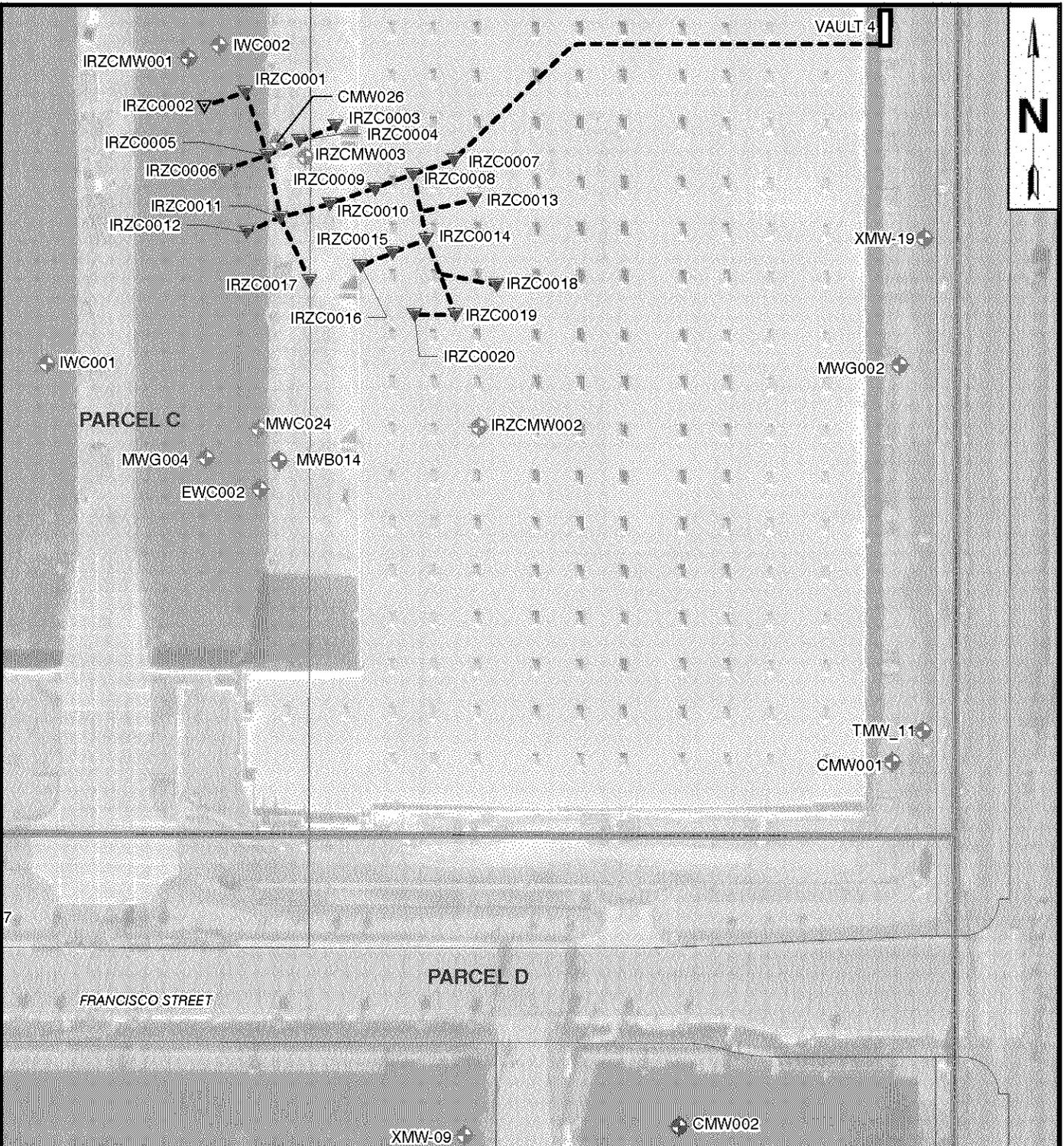
VOCs = Volatile organic compounds

- EPA = U.S. Environmental Protection Agency
- TOC = Total Organic Carbon
- DHGs = Dissolved hydrocarbon gases
- NO₃ = Nitrate, NO₂ = Nitrite, Cl = Chloride, SO₄ = Sulfate
- DHC = *dehalococcoides* spp. strains
- qPCR = Quantitative Polymerase Chain Reaction



Figures





LEGEND

- WDR Amendment Point
- Non-WDR Amendment Point
- Group B WDR Monitoring Well
- Group C WDR Monitoring Well
- Group D WDR Monitoring Well
- Non-WDR Groundwater Monitoring Well
- Amendment Well Piping System

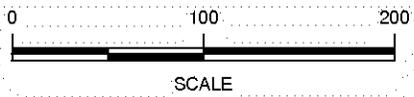
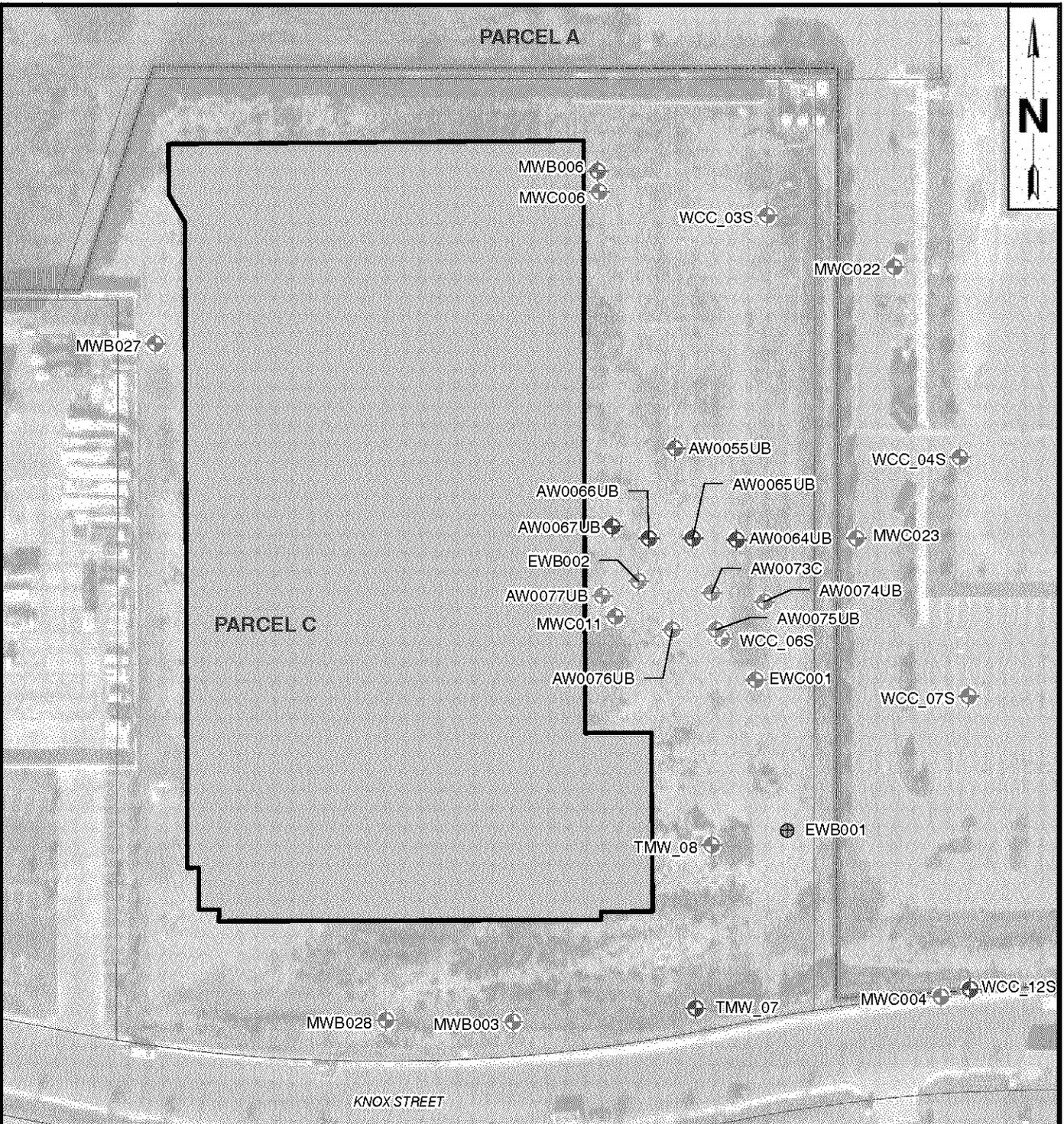


FIGURE 1
**WDR WELL LOCATION MAP
 FORMER BUILDING 2 AREA**
 BOEING CORPORATE REAL ESTATE
 FORMER C-6 FACILITY
 LOS ANGELES, CALIFORNIA





LEGEND

- Group A WDR Monitoring Well
- Group B WDR Monitoring Well
- Group C WDR Monitoring Well
- Group D WDR Monitoring Well
- Non-WDR Groundwater Monitoring Well
- Pilot Test Groundwater Extraction Well
- 1451 Knox St.
- Parcel Boundary

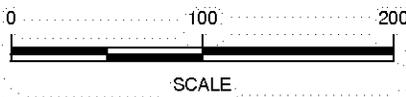
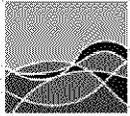


FIGURE 2
WDR WELL LOCATION MAP
FORMER BUILDING 1/36 AREA
 BOEING CORPORATE REAL ESTATE
 FORMER C-6 FACILITY
 LOS ANGELES, CALIFORNIA



Attachment 2

Field Data Forms



Groundwater Monitoring Well Gauging Sheet

Project Name: Boeing C-6 August 2008 Gauging Event **Project Manager:** Michael Rendina **Project No.:** 1155.006

Location: Long Beach, CA **Field Personnel:** BCB/DML **Date:** 8/5/2008

Field Conditions: Warm, Clear

Well ID	Previous Measurement Date	Previous Depth to Water	Previous Total Depth	Date	Time	Well Diameter (in.)	PID (ppm)	Measurement Point	Depth to Water	Depth to Water #2	Comments/Well Condition
CMW026	03/26/08	59.25	117.00	8/5/2008	7:15	4	48.0	TOC-N	59.14	59.14	Good
IRZCMW002	03/26/08	63.50	121.00	8/5/2008	9:07	4	0.0	TOC-N	53.32	53.32	Good
MWC024	03/26/08	59.52	121.00	8/5/2008	12:24	4	36.5	TOC-N	59.24	59.24	Good
IRZCMW003	03/26/08	59.41	117.00	8/5/2008	13:17	4	17.4	TOC-N	59.17	59.17	Good
AW0074UB	06/17/08	59.34	90.00	8/5/2008	8:59	2	31.5	TOC-N	59.34	59.34	Good
AW0075UB	06/17/08	59.85	89.00	8/5/2008	9:21	2	25.0	TOC-N	59.83	59.83	Good
WCC_06S	04/22/08	59.39	84.50	8/5/2008	9:27	4	0.0	TOC-N	59.11	59.11	Difficult access
AW0073C	06/17/08	60.04	116.00	8/5/2008	9:33	2	0.0	TOC-N	60.05	60.05	Good
AW0055UB	06/17/08	60.03	89.00	8/5/2008	9:40	2	9.4	TOC-N	60.10	60.1	Good
EWB002	06/17/08	60.28	90.00	8/5/2008	9:45	6	0.0	TOC-N	60.38	60.38	Good
AW0077UB	06/17/08	60.53	85.50	8/5/2008	9:55	2	0.0	TOC-N	60.64	60.64	Good
AW0076UB	06/17/08	60.34	89.00	8/5/2008	10:03	2	16.1	TOC-N	60.37	60.37	Good
MWB006	03/27/08	60.34	90.00	8/5/2008	10:10	4	135	TOC-N	60.32	60.32	Good



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B2 Month 1 WDR Sampling, August						Date: 8/5/08					
Project No.: 1155.006						Prepared by: BCZ					
Well Identification: CMW026						Weather: Clear / Cool					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 92 - 117		
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)	Total Purge Volume (gal.)			
—	59.05	117	57.95	—	N/A	N/A	N/A	N/A			
Well Diameter (inches) = 4				Gallons/Foot				Field Equipment: QED			
F - Gallons per foot of casing				0.75	2	4	6	Purge Method: Micropurge - Dedicated			
F - Gallons per foot of casing				0.02	0.16	0.65	1.47	Well Condition: Good			
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
0734	10.5s @ 80 psi	0	250	59.05	22.58	1.136	2.37	6.29	-179	29	colorless
0737	↓	750	↓	59.22	22.16	2.28	0.56	6.40	-181	17	light yellow
0740		1500		59.29	22.04	2.93	0.33	6.46	-190	7.7	"
0743		2250		59.30	22.05	2.97	0.37	6.46	-200	5.2	"
0746		3000		59.31	22.07	2.99	0.38	6.46	-202	3.9	"
0749		3750		59.31	22.08	3.02	0.38	6.46	-204	3.1	"
0752		4500		59.31	22.08	3.04	0.38	6.46	-205	2.7	"
0755		5250		59.31	22.08	3.05	0.38	6.46	-206	2.5	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
0734	0755	250	5.25	N/A	NA	59.31	0755	CMW026_WG20080805_01			
Notes: (units) [stabilization criteria]				Field Parameters			DUP: DRUM NO:				
				Ferrous Iron (mg/L)	PID (ppm):	Chemetrics D.O.(mg/L)					
				1.53	48.0	—					



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B2 Month 1 WDR Sampling, August						Date: 8/5/08					
Project No.: 1155.006						Prepared by: BCB					
Well Identification: IRZCMW002						Weather: Inside structure					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 96 - 121		
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)		
—	53.32	121	67.68	—	N/A	N/A	N/A		N/A		
Gallons/Foot				Field Equipment: QED							
Well Diameter (inches) = 4		0.75	2	④	6	Purge Method: Micropurge - Dedicated					
F - Gallons per foot of casing		0.02	0.16	0.65	1.47	Well Condition: Good					
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
0907		0	250	53.32	21.62	2.11	2.24	6.44	-95	252	cloudy
0910		750		53.59	21.40	1.98	0.61	6.42	-120	19.7	colorless
0913		1500		53.75	21.40	1.91	0.37	6.38	-139	9.2	light yellow
0916		2250		53.92	21.39	1.90	0.34	6.35	-145	7.7	"
0919		3000		54.12	21.39	1.94	0.32	6.38	-148	5.2	"
0922		3750		54.19	21.39	1.96	0.33	6.38	-159	4.3	"
0925	↓	4500	↓	54.25	21.39	1.97	0.32	6.38	-162	3.9	"
0928	—			54.28							
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
0907	0925	250	4.5	N/A	NA	54.25	0925	IRZCMW002_WG20080805_01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L)	PID (ppm):		Chemetrics D.O. (mg/L)					
			1.74	0.0		—					



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B2 Month 1 WDR Sampling, August						Date: 8/5/08						
Project No.: 1155.006						Prepared by: ZCB						
Well Identification: IRZCMW003						Weather: Clear Hot						
Measurement Point Description: TOC-N						Pump Intake:			Screen: 92 - 117			
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F					
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)			
-	59.17	117	57.83	-	N/A	N/A	N/A		N/A			
Well Diameter (inches) = 4				Gallons/Foot				Field Equipment: QED				
				0.75	2	④	6	Purge Method: Micropurge - Dedicated				
F - Gallons per foot of casing				0.02	0.16	0.65	1.47	Well Condition: Good				
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations	
1317	10.5s @ 82psi	-	250	59.17	24.36	1054	4.07	7.25	-151	0.87	Colorless	
1320	↓		↓	59.29	22.07	0.981	0.24	7.22	-128	0.82	"	
1323	↓		↓	59.30	22.02	0.980	0.12	7.26	-117	0.43	"	
1325	↓		↓	59.30	21.97	0.981	0.10	7.30	-112	0.19	"	
1328	↓		↓	59.31	22.00	0.980	0.09	7.33	-109	0.15	"	
1331	↓		↓	59.31	21.96	0.979	0.09	7.34	-109	0.11	"	
1334	↓		↓	59.31	21.97	0.979	0.10	7.33	-107	0.14	"	
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification				
1317	1334	250	4.5	N/A	NA		1334	IRZCMW003_WG200808 05_01				
Notes: (units) [stabilization criteria]				Field Parameters			DUP: DRUM NO:					
				Ferrous Iron (mg/L) 0.01	PID (ppm): 17.4	Chemetrics D.O.(mg/L) -						

GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B2 Month 1 WDR Sampling, August						Date: 8/5/08					
Project No.: 1155.006						Prepared by: BCB					
Well Identification: MWC024						Weather: Clear/Hot					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 96 - 121		
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)	Total Purge Volume (gal.)			
—	59.24	121	61.76	—	N/A	N/A	N/A	N/A			
Well Diameter (inches) = 4				Gallons/Foot				Field Equipment: QED			
F - Gallons per foot of casing				0.75	2	4	6	Purge Method: Micropurge - Dedicated			
F - Gallons per foot of casing				0.02	0.16	0.65	1.47	Well Condition: Good			
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
1224	10/5s @ 80 psi	—	250	59.24	25.55	1.73	1.69	6.80	-99	2.26	colorless
1227	↓		↓	59.31	23.17	1.60	0.91	6.87	-70	2.35	"
1230				59.32	23.02	1.66	0.86	6.91	-68	2.44	"
1233				59.31	23.02	1.60	0.85	6.93	-62	2.56	"
1236				59.31	23.92	1.60	0.92	6.98	-60	1.11	"
1239				59.31	23.95	1.61	0.92	6.99	-61	0.34	"
1242				59.31	23.96	1.61	0.96	7.00	-59	0.12	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
1224	1242	250	4.5	N/A	NA	59.31	1242	MWC024_WG200808 05 _01			
Notes: (units) [stabilization criteria]				Field Parameters			DUP: MWC024_WG200808 05 _02				
				Ferrous Iron (mg/L)	PID (ppm):	Chemetrics D.O.(mg/L)	DRUM NO:				
				0.03	36.5	10					



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/6/08					
Project No.: 1155.006						Prepared by: BCB					
Well Identification: AW0055UB						Weather: Clear/Hot					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 69 - 89		
A	B	C	D = C - B		E = B - A	G = D x F		H = Screen x F		I = (top screen - B) x F	
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)		LNAPL Thickness (ft)	One Casing Volume (gallons)		Screen Volume (gallons)		Above Screen Volume (gal.)	
-	59.98	89	29.02		-	N/A		N/A		N/A	
			Gallons/Foot				Field Equipment: QED				
Well Diameter (inches) = 2			0.75	②	4	Purge Method: Micropurge - Dedicated					
F - Gallons per foot of casing			0.02	0.16	0.65	1.47	Well Condition: Good				
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
1058	10/5s @ 55psi	-	250	59.98	25.52	2.16	2.23	6.91	-61	54.9	colorless
1101	↓	750	↓	60.07	23.87	3.12	1.24	6.47	-81	32.2	"
1104		1500		60.12	23.54	3.16	0.74	6.48	-87	15.7	"
1107		2250		60.11	23.32	3.17	0.56	6.50	-111	7.1	"
1111		3000		60.13	23.27	3.17	0.33	6.52	-115	2.84	"
1114		3750		60.12	23.16	3.17	0.27	6.52	-117	1.47	"
1117		4500		60.11	23.19	3.17	0.24	6.51	-119	0.96	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
1158	1117	250	4.5	N/A	NA	60.11	1117	AW0055UB_WG20080806_01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L)	PID (ppm):		Chemetrics D.O.(mg/L)					
			1.02	9.4		-					

GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/6/08					
Project No.: 1155.006						Prepared by: BCZ					
Well Identification: AW0073C						Weather: Clear Hot					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 96 - 116		
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)		
-	59.94	116	-		N/A	N/A	N/A		N/A		
Gallons/Foot				Field Equipment: QED							
Well Diameter (inches) = 2		0.75	②	4	6	Purge Method: Micropurge - Dedicated					
F - Gallons per foot of casing		0.02	0.16	0.65	1.47	Well Condition: Good					
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
1003	1015s @ 65psi	-	250	59.94	26.47	1.52	1.99	6.73	-72	22.7	colorless
1006	↓	750		60.17	24.08	0.891	1.43	7.04	-105	30.0	"
1009		1500		60.15	23.44	0.879	0.37	7.12	-168	32.2	"
1012		2250		60.12	23.32	0.873	0.27	7.12	-177	27.5	"
1015		3000		60.15	23.40	0.864	0.25	7.14	-177	22.4	"
1018		3750		60.14	23.41	0.857	0.22	7.15	-177	19.5	"
1021		4500		60.13	23.35	0.849	0.18	7.14	-177	17.3	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
1003	1021	250	4.5	N/A	NA	60.13	1021	AW0073C_WG200808 06 _01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L)	PID (ppm):	Chemetrics D.O.(mg/L)						
			1.99	0.0	-						



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/6/08					
Project No.: 1155.006						Prepared by: BCB					
Well Identification: AW0074UB						Weather: Clear/Warm					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 70 - 90		
A	B	C	D = C - B		E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F			
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)		LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)	
-	59.29	90	30.71		-	N/A	N/A	N/A		N/A	
			Gallons/Foot				Field Equipment: QED				
Well Diameter (inches) = 2			0.75	②	4	6	Purge Method: Micropurge - Dedicated				
F - Gallons per foot of casing			0.02	0.16	0.65	1.47	Well Condition: Good				
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
0830	105s @ 80psi	-	250	59.29	23.95	0.837	3.25	6.61	-55	5.99	colorless
0833	↓	750	↓	59.32	22.71	3.25	1.23	6.34	-67	4.33	"
0836		1500		59.31	22.67	3.13	1.13	6.37	-97	2.29	"
0839		2250		59.30	22.65	3.07	0.85	6.41	-110	2.42	"
0842		3000		59.29	22.63	2.92	0.62	6.43	-111	2.01	"
0845		3750		59.29	22.64	2.92	0.57	6.44	-111	1.11	"
0848		4500		59.29	22.64	2.92	0.52	6.44	-112	0.27	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
0830	0848	250	4.5	N/A	NA	59.29	0848	AW0074UB_WG200808 06 _01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L) 1.07	PID (ppm): 31.5	Chemetrics D.O.(mg/L) -						



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/6/08					
Project No.: 1155.006						Prepared by: BCB					
Well Identification: AW0075UB						Weather: Clear					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 69 - 89		
A	B	C	D = C - B		E = B - A	G = D x F		H = Screen x F		I = (top screen - B) x F	
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)		LNAPL Thickness (ft)	One Casing Volume (gallons)		Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)
—	59.77	89	29.23		—	N/A		N/A	N/A		N/A
			Gallons/Foot				Field Equipment: QED				
Well Diameter (inches) = 2			0.75	②	4	6		Purge Method: Micropurge - Dedicated			
F - Gallons per foot of casing			0.02	0.16	0.65		1.47		Well Condition: Good		
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
0912	10.5s @ 65psi	—	250	59.77	24.75	3.57	0.46	6.34	-109	20.5	colorless
0915	↓	750	↓	59.79	23.28	3.65	0.29	6.33	-116	24.1	"
0918		1500		59.80	23.20	3.64	0.25	6.33	-123	22.8	"
0921		2250		59.79	23.29	3.64	0.25	6.32	-124	20.2	"
0924		3000		59.80	23.40	3.64	0.26	6.32	-124	16.3	"
0927		3750		59.80	23.42	3.65	0.24	6.32	-121	17.6	"
0930		4500		59.80	23.4	3.65	0.23	6.32	-121	15.1	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
0912	0930	250	4.5	N/A	NA	59.80	0930	AW0075UB_WG200808 06_01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: AW0075UB_WG200808 06_02				
			Ferrous Iron (mg/L)	PID (ppm):		Chemetrics D.O.(mg/L)		DRUM NO:			
			1.35	25.0		—					



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/7/08							
Project No.: 1155.006						Prepared by: ZCB							
Well Identification: AW0076UB						Weather: Clear (Warm / Humid)							
Measurement Point Description: TOC-N						Pump Intake: LOS			Screen: 69 - 89				
A	B	C	D = C - B		E = B - A	G = D x F		H = Screen x F		I = (top screen - B) x F			
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)		LNAPL Thickness (ft)	One Casing Volume (gallons)		Screen Volume (gallons)		Above Screen Volume (gal.)			
—	60.22	89	28.78		—	N/A		N/A		N/A			
			Gallons/Foot				Field Equipment: QED						
Well Diameter (inches) = 2			0.75	②	4	6		Purge Method: Micropurge - Dedicated					
F - Gallons per foot of casing			0.02	0.16	0.65		1.47		Well Condition: Good				
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations		
0737	1053 @ 55psi	—	250	60.22	22.89	3.77	1.15	6.45	-128	18.7	colorless		
0740	↓	750	↓	60.27	22.87	3.64	0.91	6.45	-129	12.2	"		
0743		1500		60.29	22.83	3.54	0.76	6.44	-129	4.70	"		
0746		2250		60.28	22.74	3.55	0.71	6.44	-130	4.12	"		
0749		3000		60.27	22.95	3.57	0.53	6.45	-133	3.51	"		
0752		3750		60.28	22.97	3.57	0.49	6.45	-133	2.45	"		
0755		4500		60.27	22.98	3.60	0.41	6.45	-133	1.91	"		
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification					
0737	0755	250	4.5	N/A	NA	60.27	0755	AW0076UB_WG20080807_01					
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:						
			Ferrous Iron (mg/L) 1.47	PID (ppm): 16.1		Chemetrics D.O.(mg/L) —							

GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/6/08					
Project No.: 1155.006						Prepared by: BCB					
Well Identification: AW0077UB						Weather: Sunny / Hot 94° { } { }					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 70.5 - 85.5		
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)		
-	60.52	85.50	24.98	-	N/A	N/A	N/A		N/A		
Gallons/Foot				Field Equipment: QED							
Well Diameter (inches) = 2		0.75	②	4	6	Purge Method: Micropurge - Dedicated					
F - Gallons per foot of casing		0.02	0.16	0.65	1.47	Well Condition: Good					
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
1257	10/5s @ 55psi	-	250	60.52	24.07	3.53	0.26	6.44	-160	8.89	colorless
1300	↓	750	↓	60.85	24.74	3.66	0.23	6.43	-167	32.7	light yellow
1303		1500		60.94	23.84	3.67	0.21	6.43	-172	21.5	"
1306		2250		61.05	23.69	3.61	0.21	6.41	-174	18.4	"
1309		3000		61.11	23.68	3.58	0.22	6.40	-175	15.1	"
1312		3750		61.15	23.65	3.52	0.21	6.39	-176	10.2	"
1315		4500		61.19	23.63	3.49	0.21	6.39	-176	8.56	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
1257	1315	250		N/A	NA	61.19	1315	AW0077UB_WG200808 06 _01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L)	PID (ppm):	Chemetrics D.O.(mg/L)						
			2.49	0.0	-						



GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008					Date: 8/6/08						
Project No.: 1155.006					Prepared by: BCB						
Well Identification: EWB002					Weather: Clear/Hot						
Measurement Point Description: TOC-N					Pump Intake: Cos	Screen: 60 - 90					
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)	Total Purge Volume (gal.)			
-	60.27	90	29.73	-	N/A	N/A	N/A	N/A			
Gallons/Foot				Field Equipment: QED							
Well Diameter (inches) = 6				0.75	2	4	⑥	Purge Method: Micropurge - Dedicated			
F - Gallons per foot of casing				0.02	0.16	0.65	1.47	Well Condition: Good			
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
1218	10/5 s @ 65psi	-	250	60.27	26.16	3.32	0.58	6.53	-135	4.64	colorless
1221				60.36	23.95	3.39	0.34	6.35	-133	3.13	"
1224				60.42	23.84	3.39	0.29	6.39	-142	2.74	"
1227				60.45	23.80	3.39	0.25	6.41	-144	2.23	
1230				60.48	23.78	3.39	0.24	6.41	-146	1.93	"
1233				60.49		3.40	0.23	6.41	-146	1.89	"
1236				60.50	23.83	3.40	0.22	6.41	-146	2.01	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
1218	1236	250	4.5	N/A	NA	60.50	1236	EWB002_WG200808 06 _01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L)	PID (ppm):	Chemetrics D.O.(mg/L)						
			3.17	0.0	-						

GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/7/08						
Project No.: 1155.006						Prepared by: BCB						
Well Identification: MWB006						Weather: Clear / Hot						
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 65 - 90			
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F					
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)	Total Purge Volume (gal.)				
—	60.10	90	29.90		N/A	N/A	N/A	N/A				
Gallons/Foot				Field Equipment: QED								
Well Diameter (inches) = 2				0.75	2	④	6	Purge Method: Micropurge - Portable				
F - Gallons per foot of casing				0.02	0.16	0.65	1.47	Well Condition: Good				
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations	
0910	105 @ 65 psi	—	250	60.10	26.35	7.24	4.23	6.04	-69	16.8	colorless	
0913	↓			60.45	25.04	7.98	2.30	5.90	-78	14.2	"	
0916				60.52	24.96	7.99	1.82	5.90	-84	11.8	"	
0919					60.60	24.93	8.00	1.40	5.90	-87	9.68	"
0922					60.67	24.87	8.00	0.99	5.89	-89	9.02	"
0925					60.74	24.78	8.00	0.72	5.89	-91	7.67	"
0928					60.77	24.77	8.00	0.68	5.89	-92	6.75	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification				
0910	0928	250	4.5	N/A	NA	60.77	0928	MWB006_WG200808 07 _01				
Notes: (units) [stabilization criteria]				Field Parameters			DUP: DRUM NO:					
				Ferrous Iron (mg/L)	PID (ppm):	Chemetrics D.O. (mg/L)						
				2.87	135	—						

GROUNDWATER SAMPLING DATA SHEET

Project Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008						Date: 8/5/08					
Project No.: 1155.006						Prepared by: BCZ					
Well Identification: WCC_06S						Weather: Clear / Hot / Humid					
Measurement Point Description: TOC-N						Pump Intake: COS			Screen: 60 - 90		
A	B	C	D = C - B	E = B - A	G = D x F	H = Screen x F	I = (top screen - B) x F				
Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One Casing Volume (gallons)	Screen Volume (gallons)	Above Screen Volume (gal.)		Total Purge Volume (gal.)		
—	59.04	90	30.96	—	N/A	N/A	N/A		N/A		
Gallons/Foot				Field Equipment: QED							
Well Diameter (inches) = 4		0.75	2	4	6	Purge Method: Micropurge - Portable					
F - Gallons per foot of casing		0.02	0.16	0.65	1.47	Well Condition: Difficult access					
Time	Flow Controller Settings	Volume Purged (Liters)	Flow Rate (mL/min)	Water Level (ft-bmp)	Temperature (°C) [+/- 10%]	Conductivity (mS/cm) [+/- 10%]	Dissolved Oxygen (mg/L) [+/- 10%]	pH [+/- 0.1 pH]	ORP (mV) [+/- 10%]	Turbidity (NTU) [+/- 10%]	Observations
1111	10.5 s @ 80psi	0	250	59.04	24.73	3.78	2.23	5.92	-135	110	cloudy
1114	↓	4.5	↓	59.14	23.80	3.82	1.35	5.90	-144	184	very dark gray
1117				59.16	23.77	3.83	1.03	5.90	-150	157.0	"
1120				59.17	23.72	3.83	0.77	5.90	-152	122.0	"
1123				59.18	23.77	3.83	0.64	5.89	-152	135	light gray
1126				59.19	23.82	3.83	0.52	5.87	-151	142	"
1129				59.17	23.79	3.83	0.38	5.87	-151	137	"
Purge Start Time	Purge End Time	Average Flow (mL/min)	Total Volume Purged (Liters)	Total Casing Volumes Purged	80% Recovery Water Level Depth (Dx0.20) + B	Water Level at Sampling Time (ft bmp)	Sample Collection Time	Sample Identification			
1111	1129	250	4.5	N/A	NA	1129	1129	WCC_06S_WG200808 05 _01			
Notes: (units) [stabilization criteria]			Field Parameters				DUP: DRUM NO:				
			Ferrous Iron (mg/L) 1.92	PID (ppm): 0.0	Chemetrics D.O.(mg/L) —						



16 Technology Drive, Suite 154
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FAX (949) 296-0978

Sheet 1 of 1

1RH0267

Boeing CoC No. AV020080705B

CHAIN OF CUSTODY RECORD

Project Information:

Site Name: Boeing Former C-6 Facility, B2 Month 1 WDR Sampling, August 2008
 Site Address: Los Angeles, CA
 Project No.: 1155.006
 Project Manager: Michael Rendina
 Sampled By: Brian Barsumian
 Turn-Around-Time: Standard TAT

Sample Identification	Sample Date	Sample Time	Matrix	No. of Cntrs.	Lab I.D. Number
CNW026_WG20080805_01	08/05/08	0755	Water	12	
IRZCWW002_WG20080805_01	08/05/08	0925	Water	12	
MWC024_WG20080805_01	08/05/08	1242	Water	12	
MWC024_WG20080805_02	08/05/08	1242	Water	3	
IRZCWW003_WG20080805_01	08/05/08	1334	Water	12	
TB_AV20080805_01	08/05/08		Water	3	

Analyses		Comments	
VOCs EPA 8260B	X		
TOC EPA 9060 Modified	X		
Volatile Fatty Acids (IC Method 8M23G (Microseeps))	X		
Dissolved Hydrocarbon Gases (DHGs) (Methane, Ethane, Ethene - RSK 175)	X		
Alkalinity SM2320B	X		
Anions (NO3, NO2, Cl, SO4) EPA 300.0	X		
DHC PCR (Northwind) 24 HR HTII	X		
Total Dissolved Solids (TDS) SM2540C			

48HR HT for NO3
 Please forward VFA & qPCR analyses to identified laboratories ASAP.

(pr Band L)
 8/6/08

8/5/08
 pr Band L

Relinquished by	Company	Received by	Company
Printed Name: Brian Barsumian	Avocet Environmental, Inc.	Printed Name: [Signature]	
Signature: [Signature]		Signature: [Signature]	
Date: 8/5/08		Date: 8/5/08	
Time: 1415		Time: 1415	
Printed Name: [Signature]		Printed Name: [Signature]	
Signature: [Signature]		Signature: [Signature]	
Date: 8/5/08		Date: 8/5/08	
Time: 1505		Time: 1505	
Printed Name:		Printed Name:	
Signature:		Signature:	
Date:		Date:	
Time:		Time:	

TA/Inv. 5.4/5.5

Sample Receipt		Billing Information	
Total Containers	°C	Bill To:	Special Instructions
Temperature	°F	Michael Rendina, P.G.	DHC PCR Analyses require overnight delivery to Northwind in Pittsburgh, PA
COC Seal (Y/N/A)		AVOCET ENVIRONMENTAL, INC.	Primary DHC analyses will continue to be analyzed by ATL.
		16, Technology Drive, Suite 154	Please bill to Avocet. Please report electronically in accordance with Boeing standards. If any questions, please call Mike Rendina @ (949) 296 0977 Ext.103
		Irvine, CA 92618-2327	

S:\Project\1168 Boeing Former C-6 Facility\Groundwater Monitoring\August 2008\COC_AV020080805A.xls

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Irvine, California 92618-2327
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FAX (949) 296-0978



Sheet 1 of 1 IR 60412 Boeing CoC No. AVO200808 D6 A

CHAIN OF CUSTODY RECORD

Project Information:

Site Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008
 Site Address: Los Angeles, CA
 Project No.: 1155.006
 Project Manager: Michael Rendina
 Sampled By: Brian Barsumian
 Turn-Around-Time: Standard TAT

Analyses

48HR HT for NO ₃	Please forward VFA & qPCR analyses to identified laboratories ASAP.																
Comments	TOC EPA 8260B	VOCs EPA 8260B	TOC EPA 9060 Modified	Volatile Fatty Acids IC Method 8M23G (Microseps)	Dissolved Hydrocarbon Gases (DHGs) Methane, Ethane, Ethene - RSK 175	Alkalinity SM2320B	Anions (NO ₃ , NO ₂ , Cl, SO ₄) EPA 300.0	DHC PCR (NorthWind) 24 HR HTII	Total Dissolved Solids (TDS) SM2540C								
* connected for	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8/6/08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
added for 8/6/08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

8/6/08
2135

Relinquished by	Company	Received by	Company
Printed Name: Brian Barsumian Signature: Brian Barsumian Printed Name: Michael Rendina Signature: Michael Rendina	Avocet Environmental, Inc.	Printed Name: Michael Rendina Signature: Michael Rendina Printed Name: Brian Barsumian Signature: Brian Barsumian	TAI
Date: 8/6/08 Time: 1400 Date: 8/6/08 Time: 1448		Date: 8/6/08 Time: 1300 Date: 8/6/08 Time: 1445	

Sample Receipt	Billing Information	Special Instructions
Total Containers: 560 Temperature: 56.0 °C / 9 °F COC Seal (Y/N/NA)	Michael Rendina, P.G. AVOCET ENVIRONMENTAL, INC. 16 Technology Drive, Suite 154 Irvine, CA 92618-2327	DHC PCR Analyses require overnight delivery to NorthWind in Pittsburgh, PA Primary DHG analyses will continue to be analyzed by ATL. Please bill to Avocet. Please report electronically in accordance with Boeing standards. If any questions, please call Mike Rendina @ (949) 296 0977 Ext.103

385 5.60

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Irvine, California 92618-2327
TEL (949) 296-0977
FAX (949) 296-0978



CHAIN OF CUSTODY RECORD

Project Information:

Site Name: Boeing Former C-6 Facility, B1-36 WDR Sampling, August 2008
 Site Address: Los Angeles, CA
 Project No.: 1155.006
 Project Manager: Michael Rendina
 Sampled By: Brian Barsumian
 Turn-Around-Time: Standard TAT

Analyses

Sample Identification	Sample Date	Sample Time	Matrix	No. of Cntns.	Lab I.D. Number
AW0074UB_WG200808_01			Water	8	
AW0075UB_WG200808_01			Water	8	
AW0075UB_WG200808_02			Water	3	
WGC-065-WG200808_01			Water	8	
AW0073C_WG200808_01			Water	8	
AW0055UB_WG200808_01			Water	8	
EW0002_WG200808_01			Water	8	
AW0077UB_WG200808_01			Water	8	
AW0076UB_WG200808_07_01 *	8/7/08	0755	Water	8	
MWB006_WG200808_07_01 *		0928	Water	12	
EB_AV200808_07_01 *		1027	Water	3	
TB_AV200808_07_01 *			"	3	

VOCs EPA 8260B	TOC EPA 9060 Modified	Volatile Fatty Acids IC Method 8M23G (Microseeps)	Dissolved Hydrocarbon Gases (DHGs) Methane, Ethane, Ethene - RSK 175	Alkalinity SM230B	Anions (NO3, NO2, Cl, SO4) EPA 300.0	DHC PCR (NorthWind) 24 HR HTII	Total Dissolved Solids (TDS) SM2540C	48HR HT for NO3
X		X	X	X	X	X		Please forward VFA & qPCR analyses to identified laboratories ASAP.
X		X	X	X	X	X		Comments
X		X	X	X	X	X		* corrected on 8/10/08 per David K.
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		
X		X	X	X	X	X		

AS. 12/10/08

Relinquished by
 Printed Name: Brian Barsumian
 Signature: *Brian Barsumian*
 Date: 8/7/08
 Time: 1145

Received by
 Printed Name: Matt Grassfield
 Signature: *Matt Grassfield*
 Date: 7-28
 Time: 11:45

Company
 Avocet Environmental, Inc.

Sample Receipt

Total Containers: °C 10-2/10-3
 Temperature: °F
 COC Seal (Y/N/A)

Billing Information
 Michael Rendina, P.G.
 AVOCET ENVIRONMENTAL, INC.
 16 Technology Drive, Suite 154
 Irvine, CA 92618-2327

Special Instructions
 DHC PCR Analyses require overnight delivery to NorthWind in Pittsburgh, PA
 Primary DHG analyses will continue to be analyzed by ATL.
 Please bill to Avocet. Please report electronically in accordance with Boeing standards. If any questions, please call Mike Rendina @ (949) 296 0977 Ext.103

#021

QED MP20 / LAMOTTE 2020e

CALIBRATION CERTIFICATE

Service Technician: CJ

Date: 8/4/08

INSTRUMENT INFORMATION

EQUIPMENT I.D.: MP-20

SERIAL NUMBER: MP20-1585

CALIBRATION INFORMATION

PARAMETERS:	STANDARDS:	VALUE	PASS (✓)	LOT#
1. Conductivity	¹⁴¹³ 1000 μMhos	<u>1455</u>	<u>✓</u>	<u>Q28105</u>
2. pH Zero	7.00	<u>7.0</u>	<u>—</u>	<u>2704402</u>
3. pH Slope	4.00	<u>4.03</u>	<u>✓</u>	<u>270488</u>
pH Slope	10.00	<u>10.0</u>	<u>—</u>	<u>2706360</u>
4. Dissolved Oxygen	Air Calibration			
	Barometric pressure = 760mmHg	<u>8.23</u>	<u>✓</u>	N/A
5. Redox (ORP)	_____ mV (YSI Zobell solution)		<u>✓</u>	<u>051107</u>
	<u>231</u>			

EQUIPMENT I.D.: 2020e

SERIAL NUMBER: ME 13119

CALIBRATION INFORMATION

PARAMETERS:	STANDARDS:	VALUE	PASS (✓)	LOT#
6. Turbidity Zero	0.0 NTU's	<u>0.0</u>	<u>✓</u>	<u>—</u>
7. Turbidity Span	<u>10</u> NTU's	<u>10</u>	<u>✓</u>	<u>—</u>